AMBIENT-IT

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K0S training: Manage applications using containers

2 days (14 hours)

Presentation

Our K0s training course is aimed at system administrators and developers who want to easily deploy and manage a large-scale Kubernetes cluster. K0s is a lightweight, easy-to-use solution for managing a Kubernetes cluster with enhanced security.

K0s is a minimalist, out-of-the-box Kubernetes operating system that provides a platform for container orchestration in the most demanding environments.

Unlike complex cluster management solutions, K0s is easy to use and requires no additional server configuration. It also enhances security with rapid installation, regular updates and automated audits.

In this training course, you'll learn how to install K0s, configure and manage a large-scale Kubernetes cluster, using K0s tools such as KubeAPI and Kubelet. You will also be introduced to the use of K0s' integrated security features.

This training is based on the latest version: V1.26+k0s.0.

Objectives

- Installing and configuring K0s
- Managing a large-scale Kubernetes cluster
- Use KOS's built-in security features

Target audience

- System administrators
- Developers

Prerequisites

Knowledge of Kubernetes.

K0s training program

Introduction to K0s

- k0s presentation
- Key features
- k0s architecture
- The components
- Different approaches to installing and configuring k0s
- k0s cluster management tools
- Available resources

Installing and configuring k0s

- Work environment configuration
- Installation and configuration of k0s cluster nodes
- Installing and configuring the k0sctl command line interface

k0s cluster and data management

- k0s cluster node management
- Certificate and security management in k0s
- Configuring storage and network services
- Updating and migrating k0s
- Managing data in a k0s environment
- Backup tools
- Configuring storage solutions

Container management with k0

- Using Kubernetes with k0s
- Basic container concepts
- Management
  - Deployments
  - Services
  - Pods
- Volume and configuration management
- KubeAPI

- Kubelet

Monitoring and logging with k0s

- The different tools
  - Monitoring
  - De logging
- Configuring and using these tools
  - TLS certificates
  - Safety policies
- Cluster performance
- Best practices for log analysis and problem detection

Safety and scaling with k0s

- Scaling up k0s clusters
- Fault tolerance and recovery strategies

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.